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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,749	04/29/2002	Martin Bergenwall	915.401	4186
4955	7590	03/06/2006	EXAMINER	
WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468			CHEA, PHILIP J	
			ART UNIT	PAPER NUMBER
			2153	
DATE MAILED: 03/06/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	10/030,749		BERGENWALL ET AL.	
	Examiner		Art Unit	
	Philip J. Chea		2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to a Request for Continued Examination filed January 27, 2006. Claims 1,2,415 are currently pending. Any rejection not set forth below has been overcome by the current Amendment.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 1,2,4-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites the limitation "the quality" in line 6. There is insufficient antecedent basis for this limitation in the claim.
4. Any claim not specifically mentioned is rejected by virtue of being dependent on a rejected claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roper et al. (EP 0616455A2), and further in view of Degermark et al. ("Low-loss TCP/IP header compression for wireless networks").

As per claims 1 and 15, although the system disclosed by Roper et al. shows a method for communicating a message over a data path, the method, as claimed, comprising:

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forming a plurality of individual data segments together representing the message, each data segment having control data (see column 1, lines 11-23, where control data is considered one of address information, error checking, etc.);

transferring the data segments over the data path (see column 3, lines 10-29);

characterised in that the quality of the data path is estimated and the format of each data segment is selected from one of a first segment format and a second segment format (see column 7, lines 28-34) in dependence on the quality of the data path (see column 8, lines 19-34, where format of segment is considered an available segment size appropriate for the current link traffic).

Although Roper et al. discloses choosing a compressed and uncompressed form based on quality of the data path, it fails to expressly disclose that a first amount of control data, a second amount of control data, the second amount being less than the first amount, wherein the method comprises selecting the first format with increasing frequency when the estimated quality of the data path decreases.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Roper et al., as evidenced by Degermark et al.

In an analogous art, Degermark et al. disclose a header compression technique used in wireless links, where bandwidth is efficiently used by reducing the size of the headers. Degermark et al. further shows segments that differ in the amount of control data that they include, a second amount being less than a first amount (see page 377, right-hand column, lines 6-end of column, and page 378, left-hand column, line 1-2, where segments are considered packets which contain header information with a changing number of field entries/sizes suggesting different amounts of control data). Additionally describing a selection of the first format with increasing frequency when the estimated quality of the data path decreases (see page 378, left-hand column, section 3. UDP header compression- end of right-hand column, where first format is considered the full header transmission and the second format is considered a compressed header).

Given the teaching of Degermark et al., a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Roper et al. by employing different

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amounts of control data, such as disclosed by Degermark et al., in order to allow for changes in a packet stream by adjusting the sizes of the headers to accommodate for the demands of the network.

As per claim 2, Roper et al. in view of Degermark et al. further disclose selecting one or more segment formats that include a greater amount of control data increasingly when the indicated quality decreases (see Degermark et al. page 378, left-hand column, section 3. UDP header compression- right-hand column 1-11).

As per claim 4, Roper et al. in view of Degermark et al. further disclose that the data segments are packets (see Degermark et al. page (see page 377, right-hand column, lines 6-end of column, and page 378, left-hand column, line 1-2).

As per claim 5, Roper et al. in view of Degermark et al. further disclose that the control data is comprised in a header and/or a trailer of each packet (see page 377, right-hand column, lines 6-end of column, and page 378, left-hand column, line 1-2).

As per claim 6, Roper et al. in view of Degermark et al. further disclose a first format including a first amount of control data and a second format including a second amount of control data, the second amount being less than the first amount, and wherein the method comprises selecting the first format with increasing frequency when the indicated quality of the link decreases, and further wherein the first format is a format having a non-compressed header and the second format is a format having a compressed header (see Degermark et al. page 378, left-hand column, section 3. UDP header compression- right-hand column 1-11, where first format is considered the full header transmission and the second format is considered a compressed header, see page 379, lines 1-22).

As per claim 7, Roper et al. in view of Degermark et al. further disclose that the quality of the data path is estimated by means of one or more of the following measures; signal to interference ratio, bit error rate, power loss over the data path, required transmission power over the data path, delay over the data path (see Degermark et al. page 378, left-hand column, section 3. UDP header compression- right-hand column 1-11, where delay over the path is considered the decompressor being temporarily disconnected).

As per claim 8, Roper et al. in view of Degermark et al. further disclose a data path that includes a portion over which no bit error correction protocol is applied (see Degermark et al. page 378, left-hand

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column, section 3. UDP header compression- right-hand column 1-11, where no error correction protocol is considered UDP).

As per claim 9, Roper et al. in view of Degermark et al. further disclose that the data path includes a portion constituted by a radio link (see page 379, lines 1-23, where radio link is considered GSM).

As per claim 10, Roper et al. in view of Degermark et al. further disclose that the data segments are formed and transferred according to one or more of the following protocols; TCP, IP, UDP, RTP (see page 377, right-hand column, lines 6-end of column, and page 378, left-hand column, line 1-2).

As per claim 11, Roper et al. in view of Degermark et al. further disclose that each packet includes message data representing at least part of the message (see page 377, right-hand column, lines 6-end of column, and page 378, left-hand column, line 1-2).

As per claim 12, Roper et al. in view of Degermark et al. further disclose that the available segment formats do not differ in their ability to comprise message data (see page 378, lines 1-11).

As per claim 13, Roper et al. in view of Degermark et al. further disclose that the control data of each segment includes first control data for permitting control of the transmission and/or reception of the segment and second control data for permitting detection and/or correction of errors in the first control data (see page 377 Figure 2., where first control data is considered source address and destination address and second control data is considered the checksum).

As per claim 14, Roper et al. further disclose including greater amounts of first control data include greater amounts of second control data (see page 379, paragraph 5).

Response to Arguments

3. Applicant's arguments filed January 27, 2006 have been fully considered but they are not persuasive.

(A) Applicant contends that neither Roper or Degermark alone or in combination teach selecting a first format with increasing frequency when the quality of the link decreases.

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In considering (A), the Examiner respectfully disagrees. Roper discloses a system that determines optimum segment size for each link and uses characteristics of the link to determine whether compression is required. Degermark shows that the amount of control information included in data packets may be adjusted according to quality of the data path. Degermark mentions the advantages of increasing the amount of control information when the estimated quality of the data path decreases (see page 378, section 3 "UDP header compression", where an advantage of sending a full header is to refresh compression state when packets are lost or when a decompressor is temporarily disconnected).


Since Roper teaches an optimum segment size for each link based on characteristics of the link (e.g. bandwidth), a person skilled in the art at the time of the invention, would recognize the advantages of increasing amount of control data in the segment when quality of the data path decreases (dropped packets due to low bandwidth, etc.), in order to restore compression state.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip J. Chea whose telephone number is 571-272-3951. The examiner can normally be reached on M-F 7:00-4:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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SUPERVISORY PATENT EXAMINER
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Philip J Chea
Examiner
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PJC 2/28/06